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AUTHOR Lach, Ivan J.
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ABSTRACT

This is a report of an extensive follow-up study of Lake Land College transfer students at Eastern Illinois University. An analysis of their grade point average (GPA) term by term reveals a drop in GPA the first term after transfer and subsequent recovery. This phenomenon, known as "transfer shock," is compared with results obtained in national studies. An attempt to develop a multiple-variable regression equation for the prediction of success after transfer by use of a multiple stepwise regression revealed that, after using the GPA at the junior college as the first variable, additional variables were not significant. The study indicates that ACT scores and high school rank are significant predictors of success in a college transfer program at a junior college, but, after two years, the junior college GPA is the only significant predictor of success in the upper-level universities. This finding has many implications for the admission policies of junior college transfer students to 4-year institutions. (Author/MN)

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A STUDY OF LAKE LAND COLLEGE TRANSFER STUDENTS

By

Ivan J. Lach

Director of Admissions, Records, and Research

LAKE LAND COLLEGE

MATTOON, ILLINOIS

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INTRODUCTION

The great influx of junior colleges in the state during the past decade has substantially increased the number of students who complete their first two years of higher education at a junior college and then transfer to a four-year institution to finish their degrees. Recent limitations on enrollment at the lower division levels at the state universities are forcing more and more students into the junior colleges for the first two years of college work. With such a large proportion of college students seeking four year degrees via doing their first two years of work at a community college, the responsibility of providing a quality transfer program by the junior colleges is of vital concern.

The junior colleges are expected to do many things for many people. There seems to be no exception in the transfer program. Students are admitted from all levels of academic ability and with diverse backgrounds. Lake Land College being a community college accepts many students into its transfer program who can not meet the high admission standards at the state universities as well as students who are dropped for low scholarship from these universities. In addition, it accepts students of high academic ability that choose to come to a community college after graduating from high school, housewives who want to continue their college education after their children are in school or away from home, veterans of military service, and adults who want to change their occupations.

If education beyond the fourteenth year is to be assured to students of such diverse backgrounds, the community college must prepare these students for successful work in the upper divisions of four-year institutions. This study attempts to assess how successful Lake Land College has been in achieving this important yet difficult goal.

REVIEW OF RELATED RESEARCH

Studies about transfer students from junior colleges have been primarily descriptive in nature. The value of such studies is to demonstrate the existance of a phenomenon before exploring the reasons for such existance. The findings of these studies demonstrated that:

1. The junior college student experiences an immediate drop in grade point average (GPA) from that which he had accumulated at the junior college when he transferred to a four-year institution. This drop, usually referred to as "transfer shock," normally amounted to about one-third to one-half of a grade point initially. (4, 5, 8)

2. Even though the GPA of the junior college student declined immediately after transfer, it began to increase steadily during subsequent terms and rose to or near its previous level. (4, 5, 7, 8)

3. The junior college student performs less well academically after transfer to the four-year institution than does the "native" four-year student. (4, 7)

4. When certain variables known to be related to academic success (such as ACT scores and H. S. rank) were controlled, no significant difference between native and transfer students' academic achievement was found. (4, 7)

METHOD

Since the data available for Lake Land College transfer students is almost entirely limited to those students who transfer to Eastern Illinois University, this study will be limited to transfer students who go to Eastern. This limits the study very little, since a large majority of Lake Land College students do transfer to Eastern. In the

Fall of 1970, 146 Lake Land College students were at Eastern out of a total of 220 transfer students. Transfer students from Fall 1969 through Spring 1971 are included in this study. The following is a summary of the procedure and analyses that were made:

1. A transfer student data form was designed to record all the pertinent data on each student. The form was designed so that it could be up-dated each term and so that the information could be converted to punched IBM cards for machine analysis. (See copy of form in appendix)

2. IBM punched cards were prepared containing the pertinent information on each student.

3. The variables that were obtained for each transfer student were sex, ACT composite score, percentile high school rank, credit hours earned at Lake Land College, Lake Land College cumulative grade point average, Lake Land College curriculum, Lake Land College program, academic status at Lake Land College, transfer term and year, Eastern's GPA each term, and Eastern's academic status each term.

4. The measure of success used was the grade point average received after transfer at Eastern Illinois University. Several different analyses were performed on the above data and examined to see how well they related to success after transfer. Other analyses were performed to determine the extent of "transfer shock" and recovery.

5. The variables contained on IBM cards for each student were examined for their predictive ability by a stepwise multiple regression which was run on the BIOMED-02R computer program.

ANALYSIS OF THE DATA

The first table is a summary of the number of Lake Land College students at Eastern each term showing the number of students on probation and the number dropped as well as the mean quarterly GPA and the mean cumulative GPA for those quarters for which data were available. This summary shows a substantial increase in the number of

TABLE 1

SUMMARY OF LAKE LAND COLLEGE STUDENTS WHO TRANSFERED TO EASTERN ILLINOIS UNIVERSITY

TERM	No. of LLC Students	No. on Probation	No. Dropped	Mean Quarterly G.P.A.	Mean Cum. G.P.A.
Winter 1968	24	4	1		
Spring 1969	25	1	2		
Summer 1969	42	3	1		
Fall 1969	23	8	0		
Winter 1969-70	45	9	3	1.94	2.04
Spring 1970	68	9	4	2.41	2.29
Summer 1970	102	15	4	2.40	2.37
Fall 1970	146	11	9	2.48	2.45
Winter 1970-71	195	12	16	2.31	2.41
Spring 1971	208	7	11	2.49	2.59

students from Lake Land attending Eastern. There were 208 Lake Land transfers at Eastern in the Spring of 1971 as compared to only 68 one year earlier. Also shown is an increase in the average grade point average received. The increases in GPA can probably be explained by the fact that there is an increasing proportion of students who have been at Eastern for several terms; thus building up the number of transfers who are seniors at Eastern and hence offsetting the large drop in GPA experienced by new transfers.

To investigate the amount of "transfer shock" experienced by Lake Land College students at Eastern Illinois University the data was organized in the form shown in table 2. This table shows the Lake Land College GPA before transfer, the first term GPA at Eastern, and the successive GPA's at Eastern. There is clearly a drop in GPA the first term at Eastern ranging from .05 in the Spring of 1971 to .65 in the Winter Term 1969-70. The average drop experienced by Lake Land College students for all six terms was .30 dropping from an average Lake Land College GPA of 2.77 to an average first term GPA at Eastern of 2.47. The drop in GPA the first term is well within the range reported by Knoell and Medsker (1965). (4) They found the average first term GPA after transfer to be 2.27 with the successive GPA's increasing to 2.68 the last term of the senior year. The same pattern seems to be holding for Lake Land College students at Eastern.

Table 2 also shows the number of students persisting in school term after term. This in itself is an important measure of success of transfer students. Because of EIU's probation policy we would

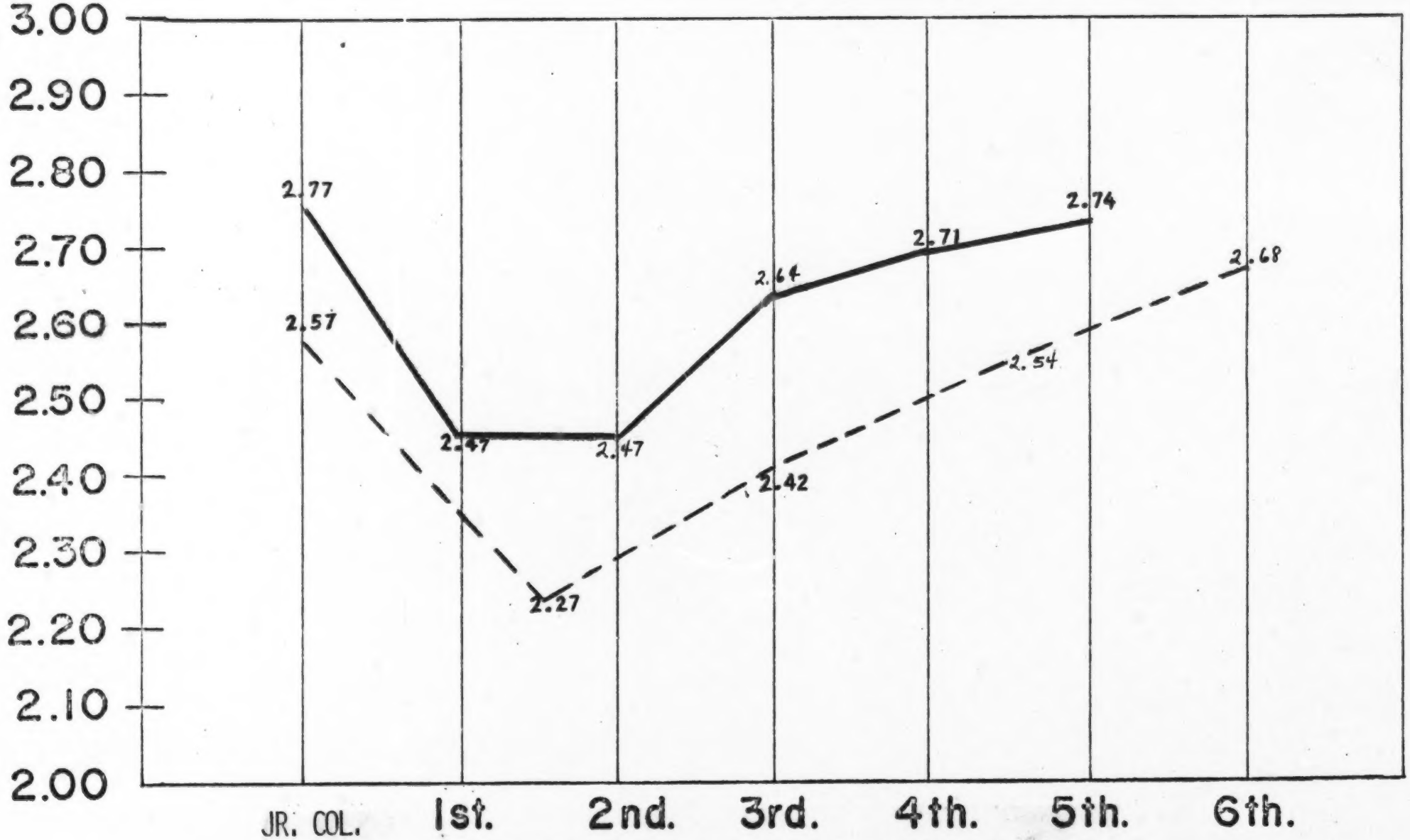

ILLUSTRATION OF HOW THE AVERAGE GPA OF TRANSFER STUDENTS VARIES TERM BY TERM AFTER TRANSFER AT THE FOUR-YEAR INSTITUTIONS.

——— LAKE LAND COLLEGE TRANSFER STUDENTS AT EASTERN BY QUARTER.

– – – TRANSFER STUDENTS IN NATIONAL STUDY BY KNOELL & MEDSKER (1965) BY SEMESTER.

TABLE 2
PERFORMANCE OF LAKE LAND COLLEGE TRANSFER STUDENTS AT EASTERN

FALL 1969 TRANSFERS

	ACT	H.S. RANK	LLC GPA	1st E.GPA	2nd E.GPA	3rd E.GPA	4th E.GPA	5th E.GPA	6th E.GPA
Average	19.0	60 %ile	2.96	2.45	2.25	2.68	2.81	2.88	2.47
Number of Students	23	23	23	23	21	16	15	15	11
Number Dropped				0	3	1	1	0	0

WINTER 1969-70 TRANSFERS

	ACT	H.S. RANK	LLC GPA	1st E.GPA	2nd E.GPA	3rd E.GPA	4th E.GPA	5th E.GPA	6th E.GPA
Average	18.3	46 %ile	2.57	1.92	2.04	2.14	2.18	2.33	
Number of Students	21	21	21	21	18	10	6	5	
Number Dropped				3	2	1	1	0	

SPRING 1970 TRANSFERS

	ACT	H.S. RANK	LLC GPA	1st E.GPA	2nd E.GPA	3rd E.GPA	4th E.GPA	5th E.GPA	6th E.GPA
Average	18.7	48 %ile	2.75	2.48	2.59	2.69	2.79		
Number of Students	33	33	33	33	31	24	20		
Number Dropped				1	2	2	0		

FALL 1970 TRANSFERS

	ACT	H.S. RANK	LLC GPA	1st E.GPA	2nd E.GPA	3rd E.GPA	4th E.GPA	5th E.GPA	6th E.GPA
Average	18.2	48.7 %ile	2.83	2.50	2.54	2.68			
Number of Students	88	88	88	88	78	74			
Number Dropped				1	0	3			

TABLE 2 (Con't.)

WINTER 1970-71 TRANSFERS

	ACT	H.S. RANK	LLC GPA	1st E. GPA	2nd E.GPA	3rd E.GPA	4th E.GPA	5th E.GPA	6th E.GPA
Average	20.2	49.6 %ile	2.78	2.32	2.60				
Number of Students	35	35	35	35	34				
Number Dropped				7	4				

SPRING 1971 TRANSFERS

	ACT	H.S. RANK	LLC GPA	1st E.GPA	2nd E.GPA	3rd E.GPA	4th E.GPA	5th E.GPA	6th E.GPA
Average	19.7	53.5 %ile	2.71	2.66					
Number of Students	66	66	66	66					
Number Dropped				7					

ALL LLC TRANSFERS

	ACT	H.S. RANK	LLC GPA	1st E.GPA	2nd E.GPA	3rd E.GPA	4th E.GPA	5th E.GPA	6th E.GPA
Average	18.9	50.7 %ile	2.77	2.47	2.47	2.64	2.71	2.74	2.47
Number of Students	266	266	266	266	182	124	41	20	11
Number Dropped				19	11	7	2	0	0

expect the largest number of students being dropped for academic reasons to come at the end of the second term. The summary on table 2 shows that almost all of the drops occur in the first and second terms after transfer (19 first term 11 second term). The large number of drops the first term is largely due to the drop in GPA the first term at Eastern.

Table 3 shows an analysis of Lake Land College GPA compared to the first term GPA at Eastern in terms of high school rank by quartiles. The table reveals a positive correlation of + .411 which was obtained in the correlation analysis between high school rank and GPA at Eastern.

Table 4 attempts to show the analysis of the GPA at Eastern in terms of Lake Land College GPA. There is a very strong positive relationship (+.727) between Lake Land College GPA and Easterns GPA. Since Eastern's probation and dismissal policy depends upon GPA, the students on probation and those dropped are generally those that had fairly low GPA's at Lake Land.

An attempt to determine the best predictors of success after transfer was made analyzing all of the variables for all of the transfer students for the four terms from Fall 1969 through Fall 1970. Since the data was punched in IBM cards, a multiple stepwise regression was performed by computer using the BIOMED-02R program. The correlation matrix in table 5 shows a rather high correlation between Lake Land College GPA and Eastern's GPA (0.727). The correlation between high school rank and GPA at Eastern is moderate (0.411). The correlation between ACT composite and GPA at Eastern is rather low (0.311), but still significantly positive. The next

TABLE 3

PERFORMANCE OF LAKE LAND TRANSFERS AT
EASTERN ILLINOIS UNIVERSITY ANALYZED BY
QUARTILE HIGH SCHOOL RANK

H.S. RANK	1st GPA E.I.U.	2nd GPA E.I.U.	3rd GPA E.I.U.
	FALL 1970		
75-100 %ile	2.84	2.80	2.81
(# of students)	(13)	(12)	(12)
50-74 %ile	2.54	2.62	2.58
	(24)	(23)	(22)
25-49 %ile	2.39	2.28	2.60
	(27)	(27)	(22)
00-24 %ile	2.20	2.17	2.30
	(14)	(12)	(11)
	WINTER 1970-71		
75-100 %ile	2.47	2.65	
(# of students)	(5)	(5)	
50-74 %ile	2.03	2.10	
	(5)	(5)	
25-49 %ile	2.44	2.58	
	(10)	(10)	
00-24 %ile	1.92	2.6.	
	(3)	(2)	
	SPRING 1971		
75-100 %ile	3.16		
(# of students)	(10)		
50-74 %ile	2.70		
	(17)		
25-49 %ile	2.38		
	(11)		
00-24 %ile	2.05		
	(5)		

TABLE 4

PERFORMANCE OF LAKE LAND COLLEGE TRANSFER STUDENTS
AT E.I.U. ANALYZED BY LAKE LAND GPA

Lake Land College GPA Intervals	1st Term Av. GPA at E.I.U.	2nd Term Av. GPA at E.I.U.	3rd Term Av. GPA at E.I.U.
	FALL 1970		
3.50 - 4.00	3.21	3.07	3.28
(# of students)	(15)	(15)	(15)
3.00 - 3.49	2.74	2.74	2.90
	(19)	(19)	(19)
2.50 - 2.99	2.27	2.30	2.33
	(22)	(21)	(18)
2.00 - 2.49	2.12	2.05	2.06
	(24)	(21)	(18)
0.00 - 1.99	2.05	1.82	1.60
	(5)	(5)	(3)
	WINTER 1970-71		
3.50 - 4.00	3.33	3.25	
(# of students)	(1)	(1)	
3.00 - 3.49	2.28	2.66	
	(8)	(7)	
2.50 - 2.99	2.40	2.69	
	(10)	(10)	
2.00 - 2.49	2.22	2.44	
	(8)	(8)	
0.00 - 1.99	0.50	--	
	(1)	--	
	SPRING 1971		
3.50 - 4.00	2.98		
(# of students)	(13)		
3.00 - 3.49	2.91		
	(11)		
2.50 - 2.99	2.59		
	(19)		
2.00 - 2.49	2.03		
	(13)		
0.00 - 1.99	1.94		
	(3)		

TABLE 5

CORRELATION MATRIX

VARIABLE		1	2	3	4	5	6	7	8
Sex	1	1.000	-0.132	0.306	0.011	0.358	0.201	0.080	0.285
ACT Comp.	2		1.000	0.527	-0.214	0.313	-0.243	0.109	0.311
H.S. Rank	3			1.000	-0.062	0.553	-0.180	-0.013	0.411
No. Cr. Hours	4				1.000	-0.142	-0.121	-0.602	-0.225
LLC GPA	5					1.000	-0.077	-0.096	0.727
Program	6						1.000	0.210	-0.156
Acad. Stat.	7							1.000	0.028
EIU GPA	8								1.000

highest relationship (.285) was obtained by correlating the sex of the student with Eastern's GPA. The higher GPA's going to the females. The relationship between the number of quarter hours of courses completed at Lake Land College and Eastern's G.P.A. was (-.225) slightly negative. Although this seemed like a surprising result at first, it was also substantiated in other studies. The cause of this is that students originally admitted to Eastern (with high academic abilities) often come to Lake Land for only one quarter when they get into difficulty at Eastern. These students often go back to Eastern and do very well. Also included in the group of transfer students who have only a few hours at Lake Land are those students who met EIU's admission requirements and enter EIU after only a quarter or two at Lake Land College.

Table 6 is a summary of the multiple stepwise regression. Each step shows the best predictor of Eastern's GPA, which was the dependent variable. Thus the best one predictor chosen was Lake Land GPA, the best two Lake Land GPA and number of credit hours earned at Lake Land and so on. The reason that high school rank and ACT scores were not good predictors is that they inter-correlated with Lake Land GPA which was the best predictor. Taking into consideration the increase in standard error and in multiple R squared it would make little sense to use any other variable other than Lake Land College GPA as a predictor of success after transfer. This makes the prediction of first term GPA at Eastern dependent on only one variable, Lake Land College GPA, The predition equation is:

TABLE 6

SUMMARY OF MULTIPLE STEPWISE REGRESSION

DEPENDENT VARIABLE IS E.I.U. GPA

Step No.	Variable Entered		Coefficient	Std. Error	Mult. R.	Mult. RSQ
1	LGPA	5	.82248	.14143	.7267	.5280
2	Cr. Hours	4	-.00213	.00231	.7371	.5433
3	Prog.	6	-.10076	.07201	.7464	.5571
4	Sex	1	.14111	0.15133	.7494	.5617
5	ACT	2	.01155	.01499	.7513	.5645
6	Rank	3	-.00199	.00338	.7532	.5673
7	Stat.	7	.03914	.12737	.7537	.5680
	(Constant		.02854)			

Estimate of E.I.U. G.P.A. = (.87771) x (LLC GPA) + (-0.14481)

Example 1: A student has a LLC GPA = 3.00. What will be his predicted first term GPA at Eastern?

Estimate EIU GPA = (.87771) x 3.00 + (-0.14481)

Estimate EIU GPA = 2.50

Using the standard error we can now construct an interval estimate of the students GPA at Eastern. Hence, if we want to set a probability of .95 on the confidence interval we need to use 1.96 (standard error) ± the estimated score. The standard error for the equation is .10712. Hence:

1.96 (.10712) ± 2.50

probability (2.29 < EIU GPA < 2.71) = .95

This means that the probability is greater than .95 that the students first term GPA would be within the interval from 2.29 to 2.71. The same procedure can be used to determine the predicted GPA for any transfer student. Table 7 shows the calculated expected first term GPA at Eastern and the .95 probability interval for the first term GPA at Eastern for various Lake Land College cumulative grade point averages from 4.0 to 2.0 in steps of 0.1. This information might be very useful for use in counseling Lake Land College students who are planning to transfer to Eastern Illinois University.

CONCLUSION

This study shows that the number of Lake Land College students transferring to Eastern is rapidly increasing from year to year and that these students are generally successful in their work at the four-year university. Compared to national studies Lake Land College students faired better than average in terms of GPA after transfer.

TABLE 7

EXPECTED FIRST TERM GPA AT EASTERN FOR LLC TRANSFER STUDENTS BASED ON LLC GRADE POINT AVERAGE.

LLC CUM. GPA	EXPECTED 1st TERM GPA AT EIU	.95 PROBABILITY INTERVAL FOR 1st TERM GPA AT EIU
4.0	3.36	3.15 - 3.57
3.9	3.28	3.07 - 3.49
3.8	3.20	2.99 - 3.41
3.7	3.11	2.90 - 3.32
3.6	3.02	2.81 - 3.23
3.5	2.93	2.72 - 3.14
3.4	2.84	2.63 - 3.05
3.3	2.76	2.55 - 2.97
3.2	2.67	2.46 - 2.88
3.1	2.58	2.37 - 2.79
3.0	2.50	2.29 - 2.71
2.9	2.41	2.20 - 2.62
2.8	2.32	2.11 - 2.53
2.7	2.24	2.03 - 2.45
2.6	2.14	1.93 - 2.35
2.5	2.05	1.84 - 2.26
2.4	1.97	1.76 - 2.18
2.3	1.88	1.67 - 2.09
2.2	1.79	1.58 - 2.00
2.1	1.70	1.49 - 1.91
2.0	1.62	1.41 - 1.83

They did experience a sharp drop in GPA the first term after transfer which is similar to that found nationally. The drop in GPA was .30 the first term. The GPA of the transfer students continued to improve after the first two terms reaching the same level as before transfer by the fifth term.

An analysis of the relationship between the various characteristics and grade point average at Eastern showed that Lake Land College grade point average had the highest correlation (.727) followed by high school rank (.411) and ACT composite score (.311). An attempt to find a prediction equation which would make use of several variables revealed that grade point average at the junior college was the only significant predictive variable. ACT scores and high school rank did not help the prediction significantly because both of these variables intercorrelated with grade point average at the junior college. This finding which was revealed by a multiple step-wise regression seems to be very significant in terms of the implications that it has with respect to admission policies for junior college transfer students. It seems that ACT scores and high school rank are significant predictors of success in a college transfer program at a junior college; however, after two years the junior college grade point average is the only significant predictor of success in the upper-level universities. This particular point has been over-looked in the traditional studies dealing with transfer students.

RECOMMENDATIONS

On the basis of this study I would suggest that a state wide study of college transfer students be made with particular emphasis on

determining the variables which are the best predictors of success after transfer. This would necessitate a multiple step-wise regression analysis. It seems that such a study is urgently needed to make sure that the admission policies at the universities for transfer students are based on fact rather than on assumptions.

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APPENDIX

LAKE LAND COLLEGE TRANSFER STUDENT

DATA FORM

Columns	
1-9	SOCIAL SECURITY NUMBER __ __ __-__ __-__ __ __ __
10-24	NAME__ Last First Mi
25	SEX Male = 1 Female = 2
26-27	ACT comp. Score (Standard) ___ ___
28-29	% High School Rank ___ ___
30-32	Credit Hours Earned at LLC ___ ___ ___
33-35	LLC Cum. G.P.A. ___ ___ ___
36-38	LLC Curriculum ___ ___ ___
39	LLC Program ___
40	Academic Status at LLC ____
41-42	Transfer Institution Code ___ ___
43-44	Department or College Code ___ ___
45-47	Transfer Term and Year ___ ___ ___
48-50	First Term G.P.A. ___ ___ ___
51	Academic Status First Term ___
52-54	Second Term G.P.A. ___ ___ ___
55	Academic Status Second Term ___
56-58	Third Term G.P.A. ___ ___ ___
59	Academic Status Third Term ___
60-62	Fourth Term G.P.A. ___ ___ ___
63	Academic Status Fourth Term ___
64-66	Fifth Term G.P.A. ___ ___ ___
67	Academic Status Fifth Term ___
68-70	Sixth Term G.P.A. ___ ___ ___
71	Academic Status Sixth Term ___
72	Academic Status One Year After the Sixth Term
73	Type of College First Entered _____ _____